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Supreme Court of the United States

OCTOBER TERM, 1942

No. 517

GAETANO AJELLO,

Petitioner.

AGAINST

PAN AMERICAN AIRWAYS CORPORATION,

Defendant-Respondent.

DOUGLAS AIRCRAFT COMPANY, INC.

Intervenor-Respondent.

PETITIONER'S BRIEF

AJELLO'S CONQUEST OF AERODYNAMICS

Whether the Pursuit Type, Bomber, Atlantic Clipper,
Flying Fortresses, or Etc., of Recent Years.
(the same invention)

By Axiom, New Principle and Multiplied, Safe Braking
and Lifting Forces.

GAETANO AJELLO,

Petitioner, in person.



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PAN AMERICAN AIRWAY CORPORATION,
Defendant-Respondent,

DOUGLAS AIRCRAFT COMPANY, INC.,
Intervenor-Respondent.

PETITIONER'S BRIEF

STATEMENT

Briefly, the nucleus of this Appeal on infringement (and \$20,000,000, damages) of Petitioner's U. S. Patent No. 1,545,808 for SAFETY DEVICE FOR AIRCRAFT, is mainly (including that the District Court decision is wrong) that the Appeal Court decision alleges that your petitioner (henceforth called Ajello for brevity)

"abandoned his specification to the public"
while Ajello insists that defendant and intervenor (henceforth called defendants) appropriated his patent.

FACTS

Let us see then the facts: what said specification, including its claim 8 in suit, contains in common with the accused airplanes:

- A. A "braking" flap; therefore hinged for high brake angles (that the mere term "lifting" flap could not imply) and at positive incidence, thus capable of smaller "lifting" angles; said flap at the nucleus of the wing (Fig. 1 of the patent in suit) and not shown or specified to be swung at one side only, for lateral stabilization, that thus would cause the airplane to dangerously swerve at that side; and therefore patented as **SAFETY DEVICE**.
- B. With wellknown operating means; but concealed within the said nucleus part of the profile of the wing (Ajello's object of **STREAMLINE**, lines 19-20 of the patent in suit) (less **DRAG**);
- C. Back of the propeller and in the air blast caused by the latter (lines 101-107);
- D. In a "small supporting area wing" (lines 30-35)

Namely, the A, B, C, D of the conquest of aerodynamics and **SAFETY** since about 1934 when the first accused airplanes appeared (the Douglas, months before the Sikorsky), whereby aviation is what it is today, that even changes the destinies of nations.

Complaint in Suit. In the preparation of the Complaint in Suit, Ajello foresaw that defendant and intervenor (henceforth called defendants for brevity) were bound to admit using 60 or more degree "braking" result as indeed they admitted at the trial (Vol. I, p. 149) but that in their dismay were going to change their testimony that what

counts most for safety is not "braking" but "lifting" (also in their briefs) lest the airplane would fall; whereby Ajello in his complaint dwells also on his simultaneous "braking and lifting" result (once the flap is hinged for high brake angle):

"At landing . . . means against gravity and momentum" (lines 23-29)

but said "lifting" is Ajello's own multiplied "lifting" because naturally, the wing being small in area is forced to land at unprecedeted high speed that multiplies both "braking and lifting" results as the pilot sees fit according to the "momentum" of his machine.

The Trial. So, at the trial, Ajello had the Sikorsky press photo stating "wing 'BRAKE,'" and the Jan. 9, 1934 New York Times publication of the accused Douglas bearing a photo and a diagram drawing boasting of said simultaneous "braking and lifting" flap result, plus that it landed at 100 miles an hour (Ajello's said simultaneous "*momentum*" indivisible from "braking" and small area or heavy wing).

Said photo and diagram presented by Ajello and accepted as proof of infringement by the Court (Vol. I, p. 107).

At the trial, expressions as "flap", "physical means" etc., were often used, but naturally, one could not interrupt speaker and find out whether it pertained to flap in cross sectional view or in front elevational view etc., whereby the governing fact remains that Ajello at the trial, stated:

AJELLO: I invented the braking flap and the braking and lifting flap (Vol. I, p. 112).

AJELLO: Anything that flaps is a flap; but it depends what the flap harnesses—

I feel to be the inventor of the braking flap and the braking and lifting flap, just the way that it came out since 1934 used by intervenor and defendant (Vol. I, p. 113)

contrary to the allegation in the decision of the Court of Appeals.

The validity of each of the above results A, B, C, D, also concomitantly, is demonstrated as follows:

**AJELLO'S ABOVE RESULT ENTITLED A *vs.* PRIOR ART.
FLAP WINGS IN CROSS SECTIONAL VIEWS.**

On appearance of the animal, we already find a hinged trailing edge part of a wing even capable of 90 degree inclination in a French patent of 1876 in side view.

In continuation it appears that prior patentees took for granted that a flap down to about 45 degrees was for lift and beyond 45 for braking. The lift, none other than on the old imaginary theory of wing top air "rarefaction" "suction" or "floatation" lift that defendants shaved off from their simulation of the actual Fig. 4 of the Wright lifting flap patent in the photostat that they appended to their brief appeal to mislead because the fact remains that when cross-examined by Ajello they could not help admitting that in said Wright patent specification they could not find any mention of "braking" (Vol. I, p. 267) and that they had found it in the character 26 of the Leukowicz patent in whose Fig. 2 the braking flap is shown at about 75 degrees (Vol. I, p. 268).

Analysis or Axiom of the Flap Wing: Even a chemist when confronted with a new compound has first to establish its correct analysis or axiom on the predominant element and most important its adaptation. Therefore it is of the greatest significance that Ajello inspired by the animal (as stated in his patent) saw its "mysteries" beginning with "momentum". Note: Superfluous to state: anybody before Ajello, could see for example in the common sparrow that when it reaches "momentum" shuts its wings to swish on like a projectile. "Momentum" (in the

patent in suit at line 25) is kinetic force (other than gravity) that must be stopped, so that Ajello in the explanatory part of his specification did not propose any of said imaginary (floatation) theories of lift, but squarely "resistance" or "braking" flap means at all angles (following reference in his patent in suit to his similar inspired objects in his prior 1919-1920 patent) and not by said Leukowicz' particular character of invention 26 at about 75 degrees. It is of the greatest significance in view that said Leukowicz patent being the one that defendants admitted they used for braking, that the idea of the drawings should coincide physically, because one could have by top and bottom flaps (with evident passage of air for ease of operation) about half the 65 or 75 degrees brake flap angle of the bottom flap alone. Plain graphic geometry and Physics evident in both patents: Ajello and Leukowicz (that happen to be the two high brake angle patents).

Ajello's Documentary Tunnel Test Data in 1925: Hence, the prejudice in both Court decisions against Ajello's drawings is unfounded (it is a BRAKE similarly as said Leukowicz' top and bottom flaps, as only results count) equivalent to bottom surface alone as he expected and corroborated by his documentary tunnel test data in 1925 (under oath in his complaint in suit) and that the bottom flap alone at sole 30 degrees for highest flap lift, the latter (lift) is overwhelmed by about 75% adverse force of DRAG.

Data that defendants could not attack in their brief replies to the complaint and at the trial:

1. Because they stated that they use solely 15 degrees for takeoff (Vol. I, pp. 128-129) not only but by flap shielded back of the propellers and in their air blast that counteracts the said majority force of drag inherent to the flap, otherwise they would use even 20 or said 30;

2. Said Douglas published diagram that shows practically a 300% reduction in the length of the landing glide in said simultaneous "braking and lifting" lest the airplane would fall.

Said tests proving that Ajello was right in proposing squarely "braking" flaps at all angles in his patent in suit (said ANALYSIS or AXIOM, basis for his MULTIPLIED "BRAKING AND LIFTING").

Defendant's Allegations: It is to be noted that till 1934 all experts particularly in America were floundered in the idea of producing a light and therefore large area airplane for safety, so that that many tended to the dirigible. So, in order to demolish all allegations by defendants also as to paper patent, multiplane (they forgetting said Leukowicz) propeller air blast, trailing edge location, lifting flaps, etc., Ajello (in addition to his complaint that proves by facts that horsepower increase alone could not have solved aeronautics, and that his new stride was not an easy matter, etc., etc.) produced and had accepted in his favor no better evidence than what follows:

The Published "Final Report" of the Dec. 1929-Jan. 1930 U. S. Guggenheim Safety Airplane Contest in Which the U. S. National Advisory Committee for Aeronautics and Others Took a Leading Part (Vol. I, pp. 219, 220, 289, 290): In fact, against all said allegations, no better evidence than the published "Final Report" of the January 1930 Guggenheim Safety Airplane Contest that produced all kinds of "lifting" flaps, plain and split, etc., in which, even supposing that the element of braking was there (Note: No mention of aerial braking there only wheel land braking) still what all experts had in mind as printed in said Report was LIFT, said old persistent imaginary theory of "rarefaction" lift or "floatatioa" in actually reducing the landing speed from the conventional about

40 miles per hour to about 30 miles; namely that all alleged safety airplanes in said Contest were large area wings that actually floated and wobbled in contrary 30 mile wind and leading nowhere whereby all said "lifting" flaps in said Contest were doomed: not worth their weight and trouble (Ajello's said BRAKING NEW PRINCIPLE were not there).

THE DISTRICT COURT DECISION IS WRONG.

1. If defendants alleged that they use the Leukowicz brake patent, then it was the sacrosanct duty of Judge Byers to peruse solely said Leukowicz' and eliminate entirely all "lifting" flaps patents on all the above evidences produced by Ajello, particularly said 1930 "Final Report" that could not and was not attacked by defendants. Instead the Judge selected the wrong patents: the Zimmermann and the Handley-Page patents in which there is no mention of braking, not only but the flap is there claimed in combination, and one has to find out who the inventor of the flap is, while the patent in suit is directly on Ajello's "braking and lifting" flap (claim 8 in suit).

Therefore Judge Byers' decision is appallingly WRONG and not to mention in addition what follows (Note: Even a child would know that the higher the flap angle the greater the DRAG; but "braking and lifting" in the patent in suit denote objectives of invention therein; otherwise how to solve aeronautics):

2. That the Judge makes also a mistake of elementary Physics inasmuch as he takes for granted, he supposes, that braking is also against gravity, forgetting that "momentum" is kinetic force (other than gravity) that must be stopped. For example, a projectile, a baseball travels on momentum (see horizontal Fig. 2 in the patent in suit and "momentum" as aforesaid);

3. That when Ajello stated that one of his big evidences is his said visioned and corroborated 75% or majority DRAG or AXIOM, the Judge calls it a theory, despite the above evidences;

4. That the accused Boeings have a braking flap down to about 80 degrees, similarly as in the photos of other accused machines (photos in Vol. II);

5. That in said Leukowicz patent brake allegedly used by defendants it should have sufficed that Leukowicz proposes soon after he mentions "braking":

In fact (namely during braking) the brake at one side plus the aileron at the same side is to be depressed for lateral balance (Leukowicz' p. 2, lines 34-37)

not only, but note: Leukowicz also proposes braking flaps extending for the full length of the wing (Leukowicz, Figs. 1 and 8) and not at its longitudinal central part or nucleus of the wing.

That means, on said two counts, that a pilot in a critical moment of braking, by lowering the brake at one side, the airplane would swerve at that side; note: like in a row boat if one inserts an oar at one side the boat would swerve at that side; or still further: suppose an automobile would swerve onto a sidewalk, would hardly anybody use the auto? No wonder then, said defective brake was abandoned and all "lifting" flaps were abandoned after said 1930 Contest whereby defendant's machines till 1934 had no flap and not even consideration of Ajello's AXIOM-DRAG by majority and consequent *streamline*; defendants, particularly in the Sikorsky machines, had 4 engines hanging down, under the wing in a maze of exposed tubing and wires.

Therefore the above flap patent differences that at first sight may appear a trifle, are instead of tremendous sig-

nificance in 60 years since 1876. In fact and furthermore in view that Ajello's brake is at the nucleus of the wing and not specified to be lowered at one side only, the natural and legal point is that not even said swerving **UNSAFE** Leukowicz' patent device counts. Was there ever a braking flap not specified to be operated at one side? Yes, indeed, the Sopwith patent brake (Vol. II, sheet 364) but alas, said Sopwith braking flap is not capable of "lifting", because it swings upwardly at negative incidence. Now, let us reflect, what could be the reason of said Sopwith brake killing or spoiling the lift in order to settle down aerodynamically? Naturally none other than the old wings, same as in said 1930 Contest (in which also the National Advisory Committee for Aeronautics took a leading part) were actually floating in contrary winds, namely, of large area and therefore no need of lift: *viz.* the sole claimed "braking" flap in said Sopwith.

But Ajello's invention is **SAFETY DEVICE** by title, hence in differentiation of said Sopwith he has one sole device "braking and lifting" flap means, that therefore not only denotes that this time his wing is not a large area, wobbling wing any longer, namely a "small supporting area wing" that therefore lands at higher speed than gusts that gusts cannot affect (Vol. I, p. 239) but that his "braking and lifting" flaps whether by two flaps as a unit or a single flap (claim 8) also as a unit (at one sole safe control), is not specified to be lowered at one side as in said **UNSAFE SWERVING** Leukowicz' make.

Naturally, in Ajello's "small area wing" even the aileron, an invention by others (as also the tail hinged surfaces), becomes also a new greatly responsive instrument and of less use, thus still further adding to **SAFETY**. Furthermore: note also Ajello's **STREAMLINE** (in chapter that follows).

**AJELLO'S ABOVE RESULT ENTITLED B:
(STREAMLINE).**

Ajello in his patent states of any well known "sliding" operating means to actuate his flap, therefore the "sliding means" and operating arm in claim 8 in suit could not be there except to substantiate that they extend with the flap at the "nucleus of the wing" and most of all inside the wing. Ajello's particular object of invention of said STREAMLINE not present in the specification of Leukowicz or any other specification, also indivisible from Ajello's said BRAKING, "MOMENTUM" and consequent "small supporting area wing" (his new PRINCIPLE).

Note: Ajello's sliding means when operative are closer to the centre of the flap, contrary to the appeal decision.

Defendants could not help admitting that the operating means were old but that they concealed them within wing profile (Vol. I, pp. 182-183); the Court terminating: "Sliding inside the wing," *viz.*: STREAMLINE, another *great novelty in favor of Ajello*. SEQUEL OF THE AXIOM.

**AJELLO'S ABOVE RESULT ENTITLED C:
(PROPELLER AIR BLAST).**

Contrary to the appeal decision, not only that Ajello's propeller air blast utilization is not the same as in the Zahm patent "floatation" or Zahm's "HOVERING AIRPLANE" but that the wing may be placed amid a fuselage as in the present day published Grumman pursuit and dive bomber, thus splitting the extension of the flap by the width of the fuselage or diameter of engine (as in the patent in suit) or by the diameter of the engine nacelles that in some present day multiengined bombers reach and project back of the reduced heavy wing, because after all what counts is the velocity of the outer part of the propeller blades.

Bleriot in 1909 had the engine at the leading edge; also the French Ader in 1897 (Vol. I, pp. 221-222) a twin engined that actually flew in 1897; and if Zahm in said location of engine saw his "HOVERING AIRPLANE" Ajello saw the reverse (Rule 35 of the Patent Rules on a new principle; first rate invention over mere improvement; otherwise how to solve aeronautics).

Note also: Ajello's "braking", "momentum" and "streamline", namely DRAG majority force, teaches also and mainly to place the engines as in the accused airplanes; however, this item of propeller air blast was eliminated from the damages in suit for the safety consideration of should all power stall (see complaint in suit) even by fuel exhaustion.

Said air blast was also futilely present in said 1930 Contest that proposed actual floatation in contrary 30 mile winds; but how to make use of said air blast lest the AXIOM, STREAMLINE and NEW PRINCIPLE BE ESTABLISHED and lest the same flap that on full "momentum" of the new heavy machine is capable of high brake angle be decidedly not Leukowicz' UNSAFE SWERVING ONE (that defendants alleged they use) but for safety: Ajello's SAFETY DEVICE.

AJELLO'S ABOVE RESULT ENTITLED D: THE SMALL SUPPORTING AREA WING HAVING A "BRAKING AND LIFTING" FLAP.

Even expressions like "wing area decrease" or "small area wing" were known respectively in the Piau patent of 1912 (Vol. II, last sheet) and in the Zimmermann patent, but their meaning was the reverse, namely buoyancy, including the Zimmermann patent which proposes the old wing thickness to be further thickened to larger area of penetration by movable ribs inside the wing as also claimed by Zimmermann and further in combination with a flap so one has to find out the inventor of the flap; however

shown and not specified for "braking", not only but without streamline, etc.; part of operating means exposed. The object of said Zimmermann being the same "floatation" at 30 mile takeoffs and landings (as in above 1930 Safety Contest) so not to injure the hulls of the then flimsy flying boats.

Therefore altogether, and also on paper patent allegation (obliterated by said 1930 Contest) the other fact remains on infringement, that common sense, and humorously so, dictates that instead said Zimmermann patent whose wing is like the musical instrument "accordion", certainly is not infringed by defendants; it would also go to pieces across the Atlantic; and thus remains the real paper patent. Both Court decisions are simply fantastic on this score of infringement. Hence, again GUESSES do not count in this intricate science but published printed words: "braking" is not present in Zimmermann and in the Page patents of the District Court decision.

In view that the District Judge practically offends Ajello by calling him an observer (to say the least), an architect not supposed to know and that the appeal decision hints to Ajello's confusion and "afterthoughts" arbitrarily without studying the case as it really deserves, Ajello feels compelled without having any influence on the decision by these HONORABLE JUDGES OF THE U. S. SUPREME COURT, but solely for the truth, that the foundation of his small supporting area wing and consequent longer takeoff run and higher landing speed (the reverse of the 30 miles in said 1930 Contest) is to be found in Ajello's U. S. patent No. 1,376,912 filed August 27, 1918, in which he shows wings slightly inclined at negative incidence with respect to the forward thrust or axis of the propeller, for less resistance (the old wings having a top convexity) offering resistance, a fact that would be worthless were it not that in the specification of said patent at line 24 Ajello mentions of his intention of opposing the "*least resistance to*

the flow of air while the aircraft flies''.

Said showing of wings inclined at a slight negative incidence would further be worthless were it not that in continuation solely 5 months later, Ajello filed his 1919-1920 patent in which DRAG being the majority force to contend with he reveals the conventional wing having a trailing edge at about 30 degrees and even at sole 20 degrees as "resistance" or obstacle means and not lifting means.

It would have been very easy for anybody to exclaim why did not Ajello add his brake to said 1918; but alas, in the terrific speed of braking a *fall* in said 1919-1920 patent, the flap wing would have gone to pieces, not only that, but what about the extra weight? Hence the brake in said 1919-1920 is in the form of an emergency wing at the strongest point of the wing, namely, at the wing-fuse-lage connection, but in the patent in suit the brake is in the form of flap means but this time attached to a "small area wing" in view also of a dive or fall, therefore stronger heavier wing (see also paragraph herein entitled "Bargain" with the Patent Office).

In other words, and in irony, the "Architect" fascinated by the new science applied common sense and practical structural reasons and resistance of materials in his invention. Please note here as also present in the complaint in suit that till 1934, in prior attempts to cross the Atlantic, pilots had their wings even carrying about 20 pound loads (instead of the conventional 8 or 9 pounds) by extra gasoline; a fact that accounts that we never heard again of most of said crossing attempts: wing structure too weak in lack of Ajello's new multiplied lift that he indirectly established by inspiredly seeking to make the "momentum" and consideration of *high air impacts of a fall* to brake which the old large area wings would have gone to pieces. In fact, in the "Final Report" of said 1930 Contest there is printed therein that the "lifting" flaps could not be opened at higher air pressures (namely higher than about

40 or even 50 miles) "*great forces being encountered*" (just the great forces that Ajello harnesses) and if the flaps were simply hinged for about solely 30 degrees in said Contest (as printed in said Report) let us then imagine if opened at 65 degrees (the equivalent of Fig. 2 in the patent in suit; plain geometry and Physics). Thence, anybody familiar with the said Contest and reading the patent in suit would readily understand Ajello's reverse principle, braking, etc., etc., as aforedemonstrated: "small supporting area wing—having basically Ajello's aerodynamical brake swinging down uniformly at both sides (other than Leukowicz' **UNSAFE SWERVING BRAKE**) is the signature of the patent in suit. Therefore valid and infringed.

Furthermore, in the preparation of his complaint, Ajello foresaw that defendants could not help admitting using high "braking" angles that they alleged they found in Leukowicz and that in their dismay they were going to change their testimony that lifting is what counts most for safety, but the lifting is also his "multiplied lifting" in a small area wing and not at in said 1930 Contest (of split and plain flaps) as aforedemonstrated that doomed the so-called "lifting" flap in search of floatation like the dirigible and not attack on the fall of the airplane: high air impacts (**SAFETY PARAMOUNT**).

AJELLO'S PATENT DRAWINGS.

Therefore in view of all the aforesaid, Ajello's patent drawings that at first sight might have appeared so radical to the Judges, are not so in said full contrast over the similar drawings of Leukowicz, by perusing Ajello's specification in proposing directly: (1) "braking" flaps at all angles; (2) "momentum"; (3) "streamline". Namely, on 3 counts that the wing is a DRAG by majority force or said AXIOM and no wonder then that Ajello added also appendages 1' and 2' (optional at the wing ends) that would

not be there were it not for the high brake angle and said AXIOM that cause a tendency to a sideslip (for example anybody that tries to rush a board against water, the board would easily sideslip sideways toward easiest penetration). Said appendages 1' and 2', being optional (last few lines of the specification) and not at the "nucleus" of the wing (claim 8 in suit) were simply disregarded at the trial.

See also the tips of the conventional ailerons extending along the trailing edge of the wing (already in his prior 1919-1920 patent) protruding at each dot at wing tips in Fig. 1 of Ajello.

Also, as to location of the device, superfluous to state, Ajello does not limit himself because he includes in his specification that it could be applied on "one part of any portion" of the wing (lines 42-43) what counts is that Leukowicz' UNSAFE SWERVING is not there specified. (Note: the Ajello specification: that the 3 Judges of appeal allege Ajello "abandoned to the public").

Also by comparing Ajello's drawings with Leukowicz' Figs. 8 to 11, the width of the flaps in Ajello's Fig. 2 conveys also that the wing proper is greatly reduced: his new principle of wing area reduction.

Furthermore, suppose Leukowicz had specified even the sole Ajello's items of "small area wing"—"braking flaps" basically PRINCIPLE AND AXIOM, Ajello would have had hardly any ground to have filed this suit in such world-wide important scientific matter. So, FACTS COUNT.

AJELLO'S PRACTICAL SOLUTION OF LIFT ONCE FOR ALL.

Here, note in this world-wide important scientific matter, that the fact remains that scientists the world over and in said 1930 Contest including the National Advisory Committee for Aeronautics, all were seeking a LIFT that they could not attain. A fact that Ajello further corroborated

at the trial by his cross-examining the chief witness for defendants who admitted that in 1929 made experiments with a flap and evidently abandoned it till 1934 on account as he stated "of weight" and not "streamlined" (Vol. I, p. 229) while Ajello, humorously easy as it may seem today, by going on the reverse of said 1930 Contest, while seeking inspiredly **SAFETY** by braking his said "momentum" (including the terrific momentum of a dive [see fall in his objects: patent line 12]) namely the dive bomber of today that lest having a reduced area wing would go to pieces, he, once and forever in the history of the new science established the long 60-year sought practical **LIFT**: his said new multiplied **LIFT**, despite the hundreds of published patents, text books and infinite formulas all leading nowhere. Once the airplane made strong and safe against dives it could be used horizontally (Fig. 2).

Therefore, returning to said published Douglas diagram of Ajello's simultaneous "braking and lifting" for their alleged highest lift (lest the airplane would fall, as they insisted and concluded at the trial) it corresponds to the other unique object in Ajello's patent in suit (lines 23-29):

"At landing . . . means against gravity and momentum"

namely, all intermediate flap angles from high to small as the pilot feels necessary decidedly at one single operation; namely, not Leukowicz' **UNSAFE SWERVING BRAKE**.

AGAIN THE DISTRICT COURT DECISION IS WRONG.

Note: In view of the above, Ajello at the trial first attacked on his "small area wing" and later on the physical nucleus that his brake is other than for lateral stability (Safety Device).

That contrary to the Judge's allegation that when Ajello was asked what his invention was, he simply stated "brak-

ing and lifting" in the belittling sense the Judge conveys (belittling Ajello to any reader of said decision) like he did not know how to convey his own invention is false because twice Ajello stated "*multiplied*" "braking and lifting" results. In fact, briefly from the minutes:

THE COURT: Will you please tell me what the nucleus is?

AJELLO: "The nucleus is this, Judge, that until about 1934, all airplanes were so light, so unsafe, at the mercy of the wind because manufacturers and engineers did not know how to lift; they did not know the lift I disclose in my patent, and besides that there was no use of braking" (Note: Lack of Ajello's safety brake) "because the idea of safety was for an airplane to land at about 40 miles an hour, and at 40 miles an hour the landing brake wheels were sufficient the same as any automobile. Consequently, defendant intervenor, until 1934 did not use that claim 8 that calls for braking and lifting."

Now to get to the significance of the very two words "braking and lifting", means 50 years of aeronautical art because since 1876 every physical means was known, even a hinged surface, the real droop or what we call flap was already known but not the mysteries you see, not the underlying forces, and that is what this invention of mine is today. For the first time, speaking without modesty, it just happens, may be through my degree in Physics and Mathematics,—it happens that I clearly set down the forces, not only that, but I do multiply them, whereby the defendant is able to go to Europe; because how can they go to Europe unless they had the forces? Airplanes were so flimsy before until 1934, especially defendants', they had engines hanging down from the wings because they did not know anything about my lift and so forth. Now, the very two words, braking and lifting, imply that the wing is small, because in 1934, it was a dream how to lift this small area wing, because if a wing is small how to lift it up and how to land it, and that is just my invention. I multiply the braking and lifting forces whereby a more heavy laden wing can safely land and easily takeoff (Vol. I, pp. 88-90).

THE COURT: Let me see if I understand what you said thus far: In an airplane having a very much smaller surface than was otherwise possible, you have introduced a device whereby the entire structure may be braked for the purpose of alighting, is that it?

AJELLO: "Of safety, yes" (Note again: "but Ajello's Safety Brake).

THE COURT: Is there anything else?

AJELLO: Also it is really the miracle of aeronautics that I have an absolutely new lift by harnessing.

THE COURT: Yes, lifting and braking in a small wing.

AJELLO: Yes.

THE COURT: Very good (Vol. I, p. 97).

So the record proves that contrary to the Judge's statement, the Judge did understand the invention. Ajello adding as an example of 80 mile landing (same page):

AJELLO: The air pressure against the wing is not double than at forty. It is four times more, and that is a multiplication.

(And further at page 42 of the minutes) including location of his flap:

AJELLO: Certainly, because it produces five times, ten times, sixteen times more the result than any flap of fifty years ago that did not produce anything. That is just the revolutionary importance of the invention.

Note here, the invention in maxima is a new principle (Rule 35 of the Patent Rules) the reverse of the old large area light airplanes whereby many tended to the dirigible for safety ocean crossings (**SAFETY PARAMOUNT**).

It is further to be noted that Judge Byers after all admits that the invention is small area wing, but arbitrarily "supposes" that a "lifting" flap produces also braking, which is a mistake by the Judge as aforedemonstrated and that all "lifting" flap patents that do not mention a word on "braking" should have been eliminated. **ONLY PRINTED STATEMENTS COUNT (NOT GUESSES)** in the intricate art.

THE APPEAL COURT DECISION IS PARTIALLY WRONG.

The appeal decision on the contrary this time does entertain "BRAKING" thus automatically reversing said District opinion, but continues to mention prior "lifting" flap patents that should have been eliminated on 3 counts: name, majority force; flap angle; and principle.

For example: could the present U. S. Senate be called Republican? Not on name, majority component force, and result.

That safety by braking is a line of research by itself and that Ajello is the only patentee here and abroad of the aerodynamical brake decidedly not specified to be depressed at one side only as in the Leukowicz patent as aforedemonstrated and not like the Sopwith brake that swings up at negative incidence and therefore the latter not capable of "LIFTING". So that manufacturers before Ajello's invention were confronted with the problem of selecting either Leukowicz' brake, a specified laterally swerving unsafe brake or said Sopwith not swerving but without "lifting" hence the value of Ajello's patent claim wording of "braking and lifting" flaps or a "braking and lifting" flap (claim 8 in suit) whereby when asked by Judge Byers on claim selection Ajello answered:

AJELLO: Any claim that call for braking and lifting.

THE COURT: Claim 8 alone?

AJELLO: Yes. It does not make any difference.

Note also that in addition to Ajello's statement that he made tunnel tests under oath in the Complaint and at the trial getting the same attainment as the single bottom flap (Vol. II, sheet left end centre) Judge Byers asked Dr. Clauser:

THE COURT to CLAUSER: What I am wrestling with is this, is there any wisdom in the suggestion that the device tends to defeat itself if the impact of the por-

tion of the air is here, and that lower portion is there! Do these two impacts tend to offset each other! (Namely, Judge Byers thinking of Fig. 2 of the patent in suit and forgetting Fig. 1.)

CLAUSER: No, they do not (Vol. I, p. 253).

But again, the idea of top and bottom flap (due to the high brake angle, etc., is already in Leukowicz' brake at Figs. 8 and 10 but not Ajello's specification, that the 3 Judges on appeal "*per curiam*" denote so important that they allege as aforesaid that Ajello abandoned to the public on their reasons:

1. That they evidently asked the Patent Office for their opinion on the broadness of claim 8 in suit and that their answer that they do not think it is broad enough.
2. That what is not included in the claim was abandoned.
3. The conclusive allegation in said appeal decision that Ajello should stick to the "bargain" he made with the Patent Office whereby his patent was granted.

AJELLO'S "BARGAIN" WITH THE PATENT OFFICE.

The photostats of the patent file wrapper (Vol. II of Exhibits) prove that he obtained his patent claims in view of the filing date of his prior patent of 1919-1920 (thus any patent mentioned whose filing date post dates February 1, 1919, do not count, because as there stated Ajello's source of invention is "to positively brake terrific air pressures" (whereby his "lifting" is also multiplied, naturally) that ailerons are for lateral stability, already in his said 1919-1920 patent and therefore his patent is basic (*a new pioneer patent*) and

"that it solves the long sought problem" (Vol. II, sheet 430)

historic words in the new science that remain so to posterity despite of any opinion no matter from whom and where.

Note also on "nucleus": the expression: "pin or shaft longitudinally embodied within the nucleus of the wing" (Vol. II, center sheet 432).

REASONS WHY ANY PATENT OFFICE OPINION DOES NOT COUNT NOW.

1. Cases of the U. S. SUPREME COURT instructing the Patent Office to issue patents to a petitioner instead of another are numberless (God pity an inventor of important disclosures).
2. That Examiner against Ajello's said "terrific pressures" (Vol. II, lower p. 429) braking cited Eaton's ailerons not only but that open at negative incidence like said Sopwith brake without "lifting" (Vol. II, sheet 434).
3. That the patent was granted on said "BARGAIN" which is the biggest "bargain" in the history of the new science.

CONCLUSION.

Ajello has been abiding to said "bargain" he made with the Patent Office as pointed to in said decision of 3 appeal Judges "*per curiam*", whereby he did not abandon anything to the public, as allegedly in said decision. That decision therefore should have been completely in favor of Ajello had said Judges simply taken pains in this world-wide important subject matter to look over said patent file wrapper and not listen to mere opinions that scandalously do not count in view of the FACTS and in view that even important letters, etc., relating to Ajello's invention (he

having also patented his invention in Britain, France, Germany [used by Junkers since 1932], Italy, Spain, etc.) were accumulated in front of the District Judge; the latter exclaiming:

"Sir, is not your patent issued?" (Vol. I, p. 301).

LESS SCIENTIFIC AND MORE LEGAL BRIEF.

Trial: At the trial Ajello stated:

AJELLO: I invented the braking flap and the braking and lifting flap (Vol. I, p. 112).

AJELLO: Anything that flaps is a flap; but it depends what the flap harnesses—

I feel to be the inventor of the braking flap and the braking and lifting flap, just the way it came out since 1934 used by intervenor and defendant (Vol. I, p. 113).

Namely "divorced" from the ailerons (ailerons at wing tips and braking flap at the nucleus of the wing).

District Decision: Arbitrarily amputates the term "braking" from Ajello's invention and cites two patents, Zimmermann and Page (Vol. II, sheets 392 and 372) which simply state a flap in combination with some other novelty, and not directly a "braking" flap.

Ajello's attorney in the appeal, puts in the term "braking" and states that in combination with other elements in his patent, Ajello attains the total result: that the airplane is compact and heavy for first time (nucleus of the invention).

Appeal Decision: Accepts the term "braking" by introducing the old braking flap of Leukowicz (Vol. II, sheet 465) (that defendants alleged they use for "braking") thus reversing the District Court opinion; but states that Ajello did not say, at the trial that he was the inventor of

the flap of today (which is not true, by above proof), and that he should abide by the bargain he made with the Patent Office on his flap. The bargain is that his flap was granted on "braking" divorced from ailerons. So, prior patents not revealing "braking" do not count. Therefore, by perusing Leukowicz' "braking", there is to be found in his page 2, lines 34-37 that he uses it also for lateral balance; namely, that it is not "divorced" from the ailerons: he swings it down together with the aileron at one side of the wing only, should lateral balance be necessary: UNSAFETY. Note: in a row boat, if one inserts an oar at one side the boat would SWERVE at that side: suppose an automobile would swerve onto a sidewalk, would hardly anybody use the auto?

Conclusion: Flap patent differences, that at first sight may appear a trifle, are instead of tremendous significance in about 60 years since 1876.

Smaller considerations in Ajello's claim 8 in suit do not count in view that the Sopwith braking flap is at the nucleus of the wing but swings up at negative incidence (Vol. II, sheet 364) and not capable of Ajello's "braking and lifting".

Returning to said Leukowicz, not only that it is a SWERVING UNSAFE brake, but that to his claimed confusion of controls he adds another simultaneous one: the tail control; also not to be found in Ajello's claim 8 in suit (the pilot must be free of worries) which therefore is VALID AND INFRINGED. (SAFETY DEVICE: the title of his patent: SAFETY PARAMOUNT).

Majority vote, as in anything of exceptional importance, governing,

Respectfully,

GAETANO AJELLO,
Petitioner, in person.

Dated Nov. 7th, 1942.

New York, N. Y., 415 Central Park West.